

## Recovery Plan Action Status

**Plan Name:** Recovery Plan for the Molokai Plant Cluster (16 spp.)

**Plan Status:** Final

**Plan Date:** 26-Sep-96

**Lead Agency:** USFWS

**Lead Office:** Pacific Islands Fish And Wildlife Office

(808)

(792-9400 )

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Pilo (Hedyotis mannii), No common name (Phyllostegia mannii), Lo'ulu (Pritchardia munroi), No common name (Silene alexandri), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Koki' o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	111	Collect, propagate, and maintain ex situ genetic stock of taxa facing imminent extinction	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources	Management: Propagation, Research: Population Surveys	Contract, Internal Field Assistance, Species Expert	This task is ongoing for the Plant Extinction Prevention species on Molokai (fewer than 50 individuals remaining in the wild. NOTE: The tasks in this plan only cover the 16 species in the original Molokai recovery plan.
Pilo (Hedyotis mannii), No common name (Phyllostegia mannii), Lo'ulu (Pritchardia munroi), No common name (Silene alexandri), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Koki' o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	112	Protect remaining wild individuals of taxa facing imminent extinction from immediate threats	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, Private landowners	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Species Expert	This task is ongoing for the Plant Extinction Prevention species on Molokai (fewer than 50 individuals remaining in the wild).

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	12	Identify and map all extant wild populations	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service	Research: Population Surveys	Contract, Internal Field Assistance, Species Expert	This is an ongoing action, as the status of the species and their threats change constantly.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	13	Delineate management units	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, Private landowners	Management: Planning	Contract, Internal Administrative, Internal Technical Assistance, Species Expert	This task has been initiated through the development of essential plant habitat by the HPPRCC and CH designations, but needs to be refined for each species and its full recovery needs.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	14	Ensure long-term protection of habitat.	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service, Private landowners	Acquisition: Easement, Acquisition: Fee Title, Acquisition: Lease, Acquisition: Management Agreement	Internal Administrative, Internal Technical Assistance, Species Expert	This task is complete for Kalaupapa National Historic Park; Kamakou, Pelekunu, and Moomomi Nature Conservancy Preserves; Olokui and Puu Alii Natural Area Reserves; and the East Molokai Watershed Partnership.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	1511	Construct and maintain fencing	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service, Private landowners	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Volunteer	Fencing is initiated for Kamakou Preserve and is partially complete for Pelekunu Preserve, East Molokai Watershed Partnership, and Kalaupapa National Park.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	2	1512	Evaluate the potential for controlling ungulates through eradication programs or establishment of game preserves	Discontinued	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, Private landowners	Management: Habitat Maintenance and Manipulation	Contract, Internal Administrative, Internal Technical Assistance, Species Expert	This task has been discontinued because the political climate in Hawaii at this time will not support island-wide eradication of nonnative ungulates, which are hunted for food.
No common name (Tetramolopium rockii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), No common name (Silene alexandri), No common name (Schiedea lydgatei)	1	153	Provide necessary fire protection	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance, Internal Technical Assistance	

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Haha (Cyanea mannii), Lo`ulu (Pritchardia munroi), `Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), Pua `ala (Brighamia rockii)	1	154	Control rodents	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service, Private landowners	Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance	Rodent control is currently only conducted within the immediate vicinity of those species which are known to be impacted by rodents, including species of the genera Brighamia, Clermontia, Cyanea, and Pritchardia. Large-scale rodent control will not be possible until aerial pesticide application is registered for use in the state of Hawaii.
Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko`oko`olau (Bidens wiebkei), Lo`ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), `Awikiwiki (Canavalia molokaiensis), `Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua `ala (Brighamia rockii), Koki`o ke`oke`o (Hibiscus arnotianus ssp. immaculatus)	1	155	Propagate and maintain genetic stock of each taxa ex situ	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	The existing ex situ collections are not genetically adequate.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	156	Ensure availability of pollination vectors	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources	Management: Other	Contract, Graduate Student, Internal Field Assistance, Species Expert	For most species in this recovery plan, the pollinator still needs to be determined.



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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	158	Control insects and/or disease, if necessary	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Hawaii Department of Agriculture, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service, Private landowners	Management: Disease Control, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Species Expert	This task has not started because no insects or diseases have been identified as threats.. except to Phyllostegia hispida, and the species still needs to be assessed to determine if the caterpillar is native or introduced.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	1	159	Control all other identified threats	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service, Private landowners	Management: Predator and Competitor Control	Contract, Internal Field Assistance, Species Expert	This task has not started because no other threats have been identified.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	2	21	Select populations for expansion	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, Private landowners	Management: Planning, Management: Reintroduction	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	This task is limited based on the material available in ex situ collections.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	2	22	Prepare sites and plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, Private landowners	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Management: Reintroduction	Contract, Internal Field Assistance, Species Expert	This task is limited based on the material available in ex situ collections.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	2	31	Collect diagnostic data on crucial associated ecosystem components	Ongoing Not Current	Prior to FY 1995		Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Habitat Requirements	Contract, Graduate Student, Internal Field Assistance, Species Expert	Critical habitat, and the suitable habitat from which critical habitat was derived, has been identified for all species in this recovery plan. Additional studies are needed to develop more precise microclimate needs for each species.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	3	4	Develop and maintain long-term monitoring programs for all species	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, The Nature Conservancy of Hawaii, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service	Research: Demographic Studies, Research: Population Surveys	Contract, Internal Field Assistance, Species Expert	

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	3	51	Investigate feasibility and desirability of reintroduction	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Planning, Management: Reintroduction	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task is considered crucial for any species with fewer than 50 individuals remaining in the wild. The Molokai Plant Extinction Prevention program initiated in FY 2006 will look for reintroduction sites to conduct small-scale management and reintroduction for such species on Molokai.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	3	52	Develop and implement specific plans for reestablishment	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, Private landowners	Management: Planning, Management: Reintroduction	Contract, Graduate Student, Internal Technical Assistance, Species Expert	Reintroduction is occurring for some species in this recovery plan, but detailed reintroduction plans have not been developed.

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	3	61	Determine number of populations and individuals needed for long-term survival	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations, Research: Competition, Research: Demographic Studies, Research: Genetics, Research: Habitat Requirements, Research: Management Techniques, Research: Population Surveys, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	

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Pilo (Hedyotis mannii), No common name (Tetramolopium rockii), No common name (Phyllostegia mannii), Haha (Cyanea mannii), Ko'oko'olau (Bidens wiebkei), Lo'ulu (Pritchardia munroi), No common name (Silene lanceolata), Alani (Melicope reflexa), No common name (Silene alexandri), No common name (Schiedea lydgatei), 'Awikiwiki (Canavalia molokaiensis), 'Oha wai (Clermontia oblongifolia ssp. brevipes), Haha (Cyanea procera), No common name (Stenogyne bifida), Pua'ala (Brighamia rockii), Koki'o ke'oke'o (Hibiscus arnottianus ssp. immaculatus)	3	62	Refine downlisting and delisting criteria	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations, Research: Competition, Research: Demographic Studies, Research: Genetics, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Population Surveys, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	